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New chemical tariff system takes shape Page 12

CHEMICAL & ENGINEERING

NEWS

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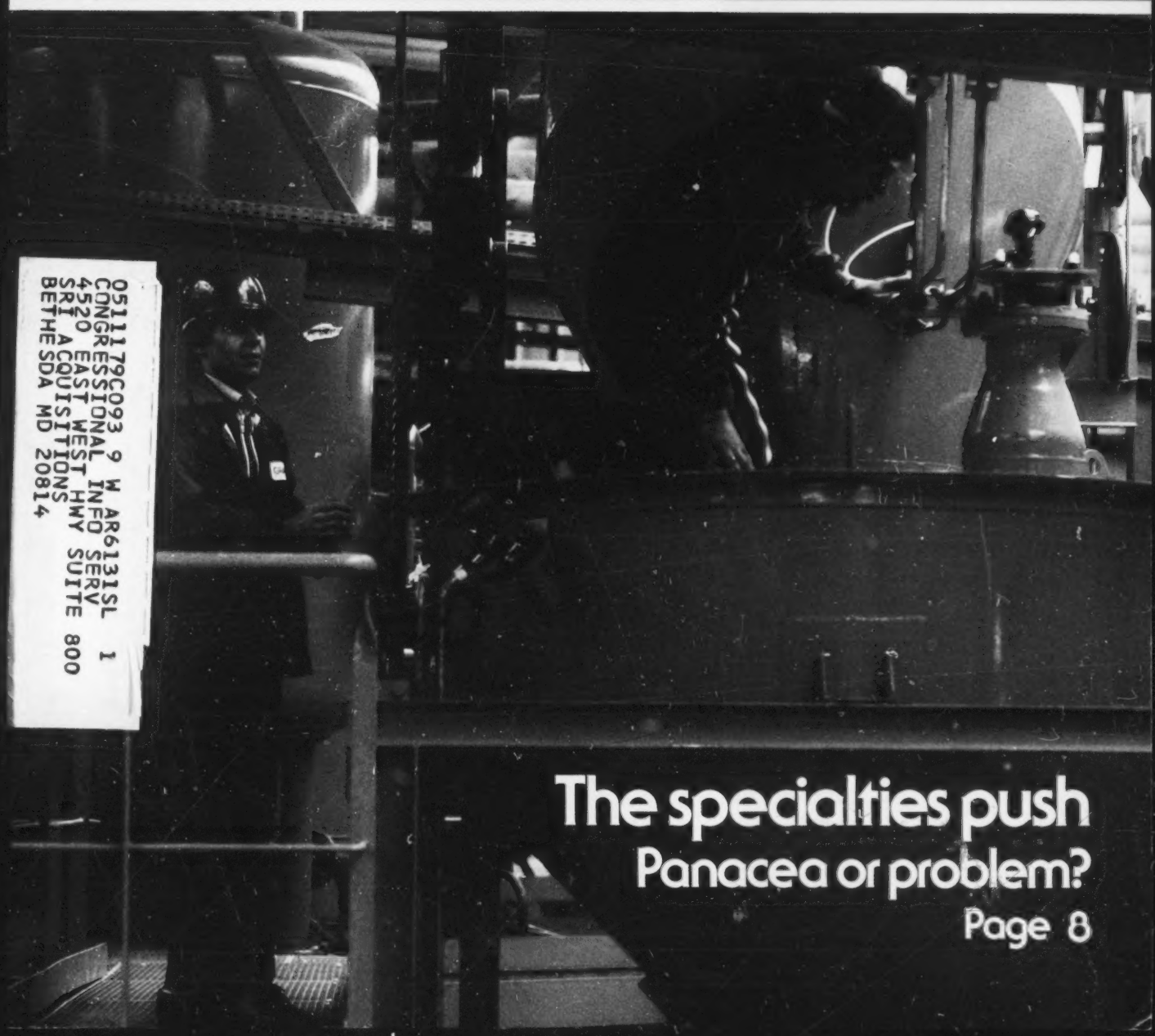

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The specialties push
Panacea or problem?

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Cover: Specialty producer W. R. Grace's battery separator plant at Sélestat, France

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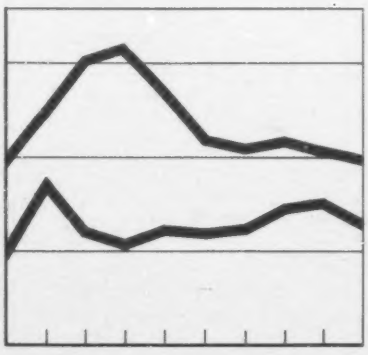


Cover Story

Lure of the high-profit-potential specialties industry is strong for commodity chemical makers, but abundance of management problems adds to risks. **Page 8**

Specialty Chemicals Push Raises New Management Problems

Commodity chemical firms trying to get higher profits by entering specialties should know they will have to make major management changes

William J. Storck, C&EN New York

A rush into specialties is the key part of a lot of U.S. chemical companies' strategy for reviving profits in the 1980s. The movement actually began in the 1970s, but the attention paid to specialties and their higher potential profitability really has gained momentum in the past few recessionary years.

The list of existing and potential producers includes not only traditional specialty chemical companies such as Lubrizol and Petrolite but also commodity chemical producers like Du Pont and Dow Chemical and companies like Uniroyal and Beatrice Foods whose main business has never been chemicals. In perhaps the best known case, Dow has posted a goal of half its earnings in specialties by 1990.

Questions remain, though, whether the specialties campaign is going to be all that good for the chemical industry, and, indeed, whether the nonspecialty-oriented companies can even pull it off.

Charles H. Kline, president and director of Charles H. Kline & Co., a Fairfield, N.J.-based consulting firm, defines specialty chemicals as chemicals sold primarily on a performance basis—the ability to do a very specific job. Most producers of specialty chemicals regard them as products for which technical service to customers is at least as important as the product itself. In other words, the producing company must spend time and effort with the customer discovering exact needs and fitting the product to those needs, or adapting the customer's process so that it can use a particular product.

Primarily two concerns are voiced about commodity companies' increasing emphasis on specialties. The first is a potential damaging effect on existing specialty companies. The second is commodity companies' actual ability to do what they say they want to do.

Vincent L. Gregory Jr., chairman and chief executive officer at Rohm & Haas, which has a large specialty chemical operation, says that there is no question but that the specialties push poses a problem for traditional specialty producers. "But, it does not terrify us," he says. Although newcomer companies, according to Gregory, are looking at the Rohm & Haas type of arrangement—with a combination of specialty products atop a commodities base, rather than the purely specialty route of Nalco Chemical, Lubrizol, or Loctite—he believes that if an existing specialty company can protect its niches, it can maintain its specialty areas. In other words, since specialty chemicals generally are sold for very specific uses with special marketing needs, specialty companies likely will be able to maintain their lead in the areas they already dominate.

This also means that commodity companies may find that they have a hard time developing their own specialty businesses. One industry executive says the specialty companies have so much experience behind them, that product development is much easier than for a company just entering the field.

Since a standing start in specialties is so difficult, acquisitions may be the best way for commodity companies to get into the specialty field, many sources say. Unfortunately, acquisitions of specialty companies can be a

Pesticides market offers huge barriers to entry

Pesticides have long been thought of as one of the glamor products in the specialty chemical arena. A lot of companies—most notably Monsanto with most of its profit in this area—have made a lot of money in pesticides. They are truly high-value-added products. However, much of the high earnings seems to come from a combination of innovation, good marketing skill, and a lot of luck.

First, there is the process of developing a commercial product. It has been estimated that only about one of every 12,000 compounds developed in agricultural chemical research makes it to the marketplace. Most of the other compounds are weeded out by potential production problems, lack of government approval, or the fact that they just plain don't work. Second, the average wait for government approval is up to seven years, and during that time, the firm must continue to spend money on safety and efficacy testing. Finally, the producer must get its product accepted by growers, a sometimes difficult thing to do when the grower's yearly income is tied up in just one planting.

After the company spends all of this time and money on product development, safety testing, and advertising, it has at most about 10 years to recoup its investment. After that the product goes off patent and generic producers move in with much lower-cost products and take away a large part of the original producer's sales.

Specialties trend will have weighty financial impact

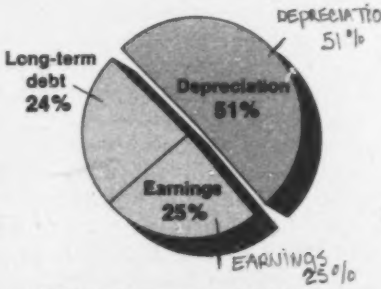
One of the most important effects of the chemical industry's emphasis on specialty products for the 1980s will be purely financial. Of course, industry leaders hope that specialties will pick up profits. But there's much more to it than that. From a financial point of view, specialties are quite different from the industry's traditional commodity businesses. Money flows alter radically as companies change the emphasis from products like ethylene and chlorine to products such as herbicides, engineering plastics, and electronic materials.

Besides the obvious boost in value added and, hopefully, a resulting boost in profits, specialties tend to rearrange company finances in other ways. Most important, specialties are usually less capital-intensive. That is, they take less investment money for new plants.

On the other hand, specialties are likely to increase the industry's need for all kinds of technical backup for products, from basic research through development to technical service. In other words, R&D budgets will go up sharply, adding to companies' current costs. This already has happened in the chemical industry; C&EN surveys show that R&D budgets at leading companies have more than doubled in the past six years (C&EN, July 25, page 52).

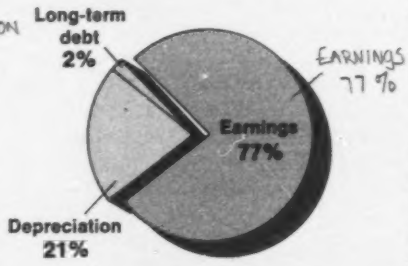
Some idea of specific dimensions in these financial shifts comes out in an extreme comparison—between commodity-heavy basic chemical companies and one of the ultimate specialty areas, the drug industry. Admittedly, chemical firms may never become so specialty-oriented as ethical drug firms. But the contrast tells something about the direction of chemical companies' money management.

Commodity makers lean heavily on depreciation . . .



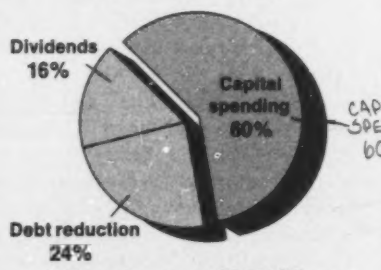
1982 cash source = $4.1 billion

. . . while specialty firms still have rich earnings



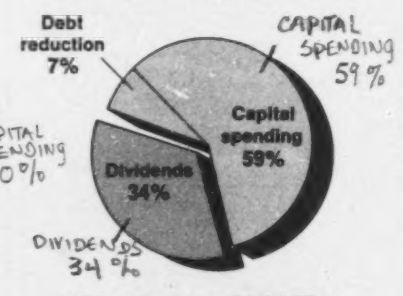
1982 cash source = $1.5 billion

Commodities demand big capital spending, debt . . .



1982 cash use = $5.2 billion

. . . while specialties firms can afford higher dividend rate



1982 cash use = $1.5 billion

Note: Data are for five commodity chemical producers—Celanese, Dow Chemical, Hercules, Monsanto, and Union Carbide—and for five specialty drug producers—Eli Lilly, Pfizer, Searle, Squibb, and Upjohn.

Both cash sources and uses are very different between the two groups. A survey of five commodity-rich chemical firms (Celanese, Dow Chemical, Hercules, Monsanto, and Union Carbide) and five pharmaceutical companies (Eli Lilly, Pfizer, G. D. Searle, Squibb, and Upjohn) shows first that cash intake after taxes and ordinary running expenses differs notably in both good years and bad. Of the three leading sources of companies' cash—earnings, depreciation, and new long-term debt—earnings are overwhelmingly important for the drug companies—77% of the total for these three sources in recessionary 1982 and 70% in booming 1979. Drug companies get relatively little cash from depreciation—21% of the total in 1982 and 16% in 1979—and next to nothing from debt—2% in 1982 and 14% in 1979.

In sharp contrast, basic chemical companies get much less of their main cash elements from earnings—25% in a very poor 1982 and 43% in robust 1979. However, these capital-laden firms enjoy large depreciation—51% of total cash in this survey in 1982 and 40% in 1979. And they take down much more long-term debt—24% of the total in 1982 and 17% in 1979.

In cash use, chemical companies put relatively more into new plant and equipment than do drug companies even in depressed years. Of the three main uses of company cash—capital spending, dividends, and long-term debt payments—capital spending accounted for 60% of the total for chemical companies in 1982 and 73% in 1979. For drug companies, the corresponding figures were 59% and 53%.

In smaller cash outlets, the biggest difference is in dividends, which made up 34% of drug companies' use of these three cash elements in 1982 and 39% in 1979. For chemical companies, dividends took just 16% of the total in both years. In the category of debt reduction, the numbers are reversed, as might be expected. Debt payment took fully 24% of chemical companies' total for these cash uses in 1982 and 11% in 1979. For drug companies, much smaller financing needs resulted in just 7% of these cash uses for debt payment in 1982 and 8% in 1979.

William Fallwell, Washington

very expensive route because of Wall Street's high premium on their stock prices.

One other problem that some see for the specialty companies if the commodity producers begin to move in is pricing. Many specialty producers worry that, especially in times of economic slowdown, traditional commodity companies may start to cut the price of specialties to maintain markets. "I would much rather see Dow be the best commodity chemical producer in the world, perhaps driving the others out of business, than see it get deeper into specialties," says one chemical executive. He is worried that companies such as Dow and others that have traditionally sold on the basis of price, will turn high-value-added specialties into mini-commodities.

Others are not so sure. In fairness to Dow, Robert Todd, vice president of chemical services for Citibank in New York City, says that of the large chemical companies Dow probably can handle specialties as well as, if not better than, most others. "Dow has always had the attitude that if the customer wants new products and expanded plants, he is going to have to pay for them."

However, everybody points out that when the oil companies went into specialty chemicals, they did sell on the basis of price. This got them into real trouble, according to one analyst.

It's experiences like these that have some executives concerned. Rohm & Haas' Gregory says, "When commodity companies decide to go into specialties they are going to have problems. It's a completely different psychology—a different way of doing business. They can't go in and buy a specialty chemical outfit and think that they are going to run it on price. It just won't work."

Commodity companies just don't seem to realize the amount of service they will have to provide when they get into specialty chemicals, according to another industry executive. And they don't realize the extent of training of their own sales forces that is involved. If a company wants to get into specialties, he says, it will take a very large sales force that takes a very long time to train.

Larger sales forces plus high research and development spending seem to be the keys at successful specialty chemical firms. For instance, C&EN found that at five specialty chemical companies—Loctite, Lubrizol, Nalco Chemical, Petrolite, and H. B. Fuller—selling, administrative, and general expenses, plus R&D costs, averaged more than 24% of sales in 1982. Last year, at five predominantly basic chemical companies—Dow Chemical, Union Carbide, Monsanto, Celanese, and Hercules—these same costs totaled only 14% of sales. What this means is that specialty companies actually are providing a service, of which a chemical is only a part.

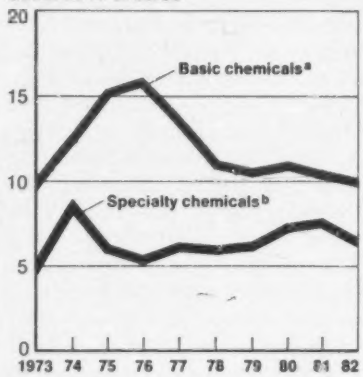
The biggest problem is that acquisitions of specialty chemical companies by commodity producers—the best way to go, according to many people in the industry—simply will not have a very big effect on the larger companies' earnings. The majority of acquisitions of specialty chemical firms take place when sales are at $20 million to $30 million or below. According to Citibank's Todd, if a specialty company can get past this acquisition sales threshold, then it may easily become too expensive to acquire because of the stock's high price-earnings ratio.

Then, there is the problem of day-to-day operations. One specialty marketer says that in a commodity business, the producers are faced with essentially one question: whether or not to build a plant. In specialties, however, that is just the first step, and since capital costs generally are lower for specialties, a plant is perhaps not even the most important step. Once a producer decides to get into a specialty area, it must then make decisions on new products, R&D effort, staffing, and a host of other considerations.

The final problem for companies just getting into a specialty business, no matter what their previous orientation, is customer acceptance. Producers say that the high service content of their business leads in most cases to great customer loyalty. Just because a commodity producer comes along with a competitive product, even at a lower price, the customer may balk at switching.

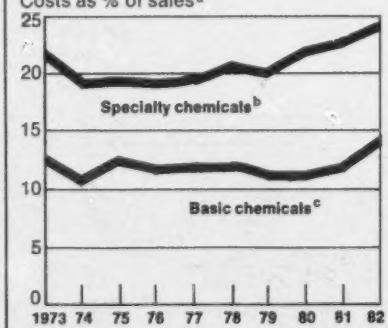
The one part of the specialties push that has some people mildly excited is the application of specialty techniques to commodity chemicals. According to Todd, for example, there are great opportunities in plastics for some new specialty uses. In another instance, some industrial gas producers have set up specialty segments to market small amounts of large-volume gases in a specialty manner. One application is the marketing of very-high-purity nitrogen to the electronics industry. If specialty management begins to rub off on traditional commodity chemicals this way, then commodity producers' new fascination with specialties may be worthwhile even if the drive falls short of producers' fondest hopes. □

Lower capital costs make specialties attractive



a Average for Dow Chemical, Union Carbide, Monsanto, Celanese, and Hercules. b Average for Lubrizol, Loctite, Nalco, Petrolite, and H. B. Fuller.

Selling, development costs higher for specialty makers



a Selling, general, and administrative plus R&D costs. b Average for Lubrizol, Loctite, Nalco, Petrolite, and H. B. Fuller. c Average for Dow Chemical, Union Carbide, Monsanto, Celanese, and Hercules.